

**Tektronix TekSmartLab™**  
**TSL3000A**

**User Manual**



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# **Tektronix TekSmartLab™ TSL3000A**

## **User Manual**

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## Home Interfaces

The TSL3000A has two home screens. The default screen (see below) is based on courses that can be chosen to configure the parameters of instruments.

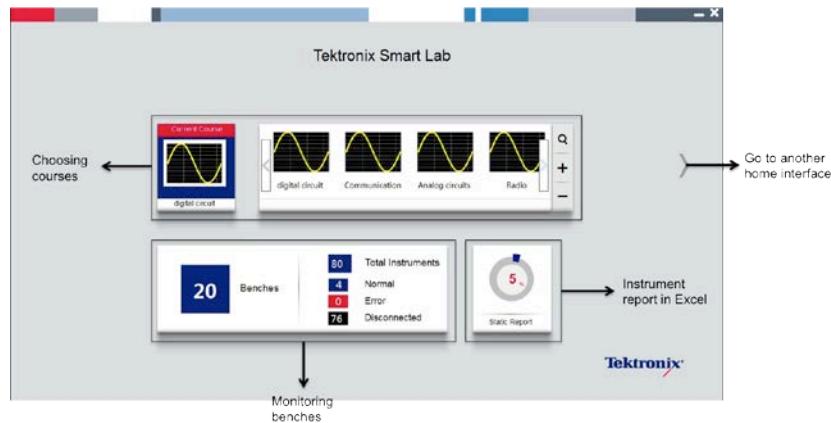


Figure 1: Default (courses) home screen

Click the arrow pointing right. You can see the other home interface (see below) based on instruments that can be chosen to configure parameters also.

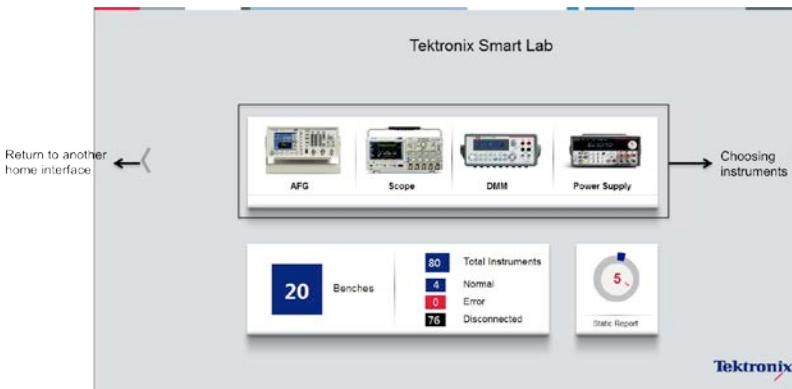


Figure 2: Second (instruments) home screen

## Centralized Instrument Configuration

You can set the instrument configurations based on the courses and then distribute them to over 100 instruments, or you can set the configurations based on instruments and then distribute them to up to 30 benches.

### Configuring Courses

You can customize your courses and configure the instruments in a batch based on courses.

### Choosing and Editing Courses

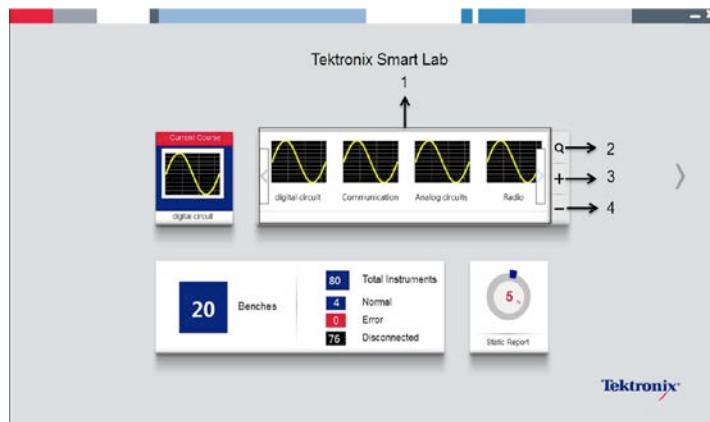


Figure 3: Home screen based on courses

1. On the Course screen, you can choose different courses. The left arrow and right arrow allow you to move between courses.
2. Click the magnifying glass icon to search for the courses.
3. Click + to add a new course.
4. Click - to delete the selected course.

### Configuring Courses

Double click a course to enter the course configuration interface as below:

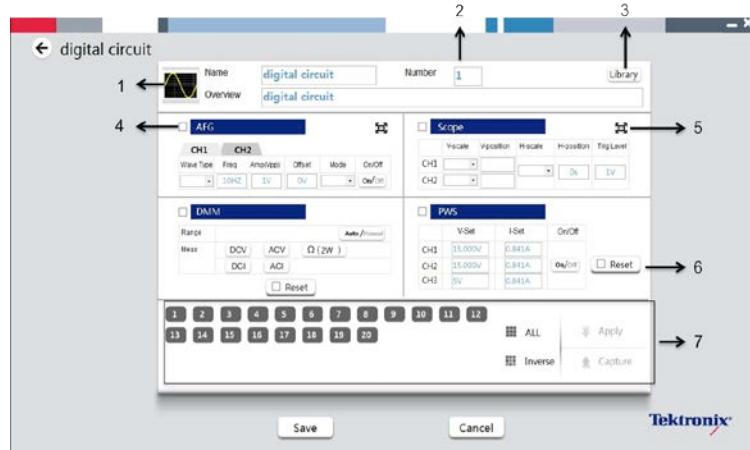


Figure 4: Course configuration interface

1. Enter information about this course in the **Name** box and **Overview** boxes.
2. Set the sequence order of this course by entering a number in the **Number** box.
3. Click **Library** to check and save the files related to this course. All the test reports and lab results will be saved under each course according to date.
4. Select the box beside the name of the instrument to put in use for this course.
5. Click for more detailed configurations.
6. If you select **Reset**, when you click **Apply** to distribute the configurations to the instruments, the instruments will be reset to the previously saved configurations. If you only want to reset the instruments, make sure you leave all the parameters un-configured.
7. Select the benches to be configured when you select **Apply**.



You can choose or deselect one bench, multiple benches, or all benches. The shadow underneath the number icon means that the bench is chosen.



As shown above, benches number 1 and 2 are chosen, whereas the benches number 3 and 4 are not chosen.

Click **Capture** to capture the current configuration of the chosen bench (only one bench can be chosen). You can then copy the configuration of this bench onto another bench.

Click **Apply** to distribute the configurations to the chosen benches.

When the number icon of a bench turns green, the configuration is successful. If the icon turns red, you can choose this bench only and repeat the configuration. If the icon stays red, please check the cable connection and reset the instruments and USB WIFI hub. If the fault is still not cleared, please initiate a self-check of the instruments by referring to its user manual to check whether the instrument is operating correctly.

### Choosing and Configuring Instruments

You can configure instruments in a batch on the Instruments home screen based on instruments.

#### Home Interface based on Instruments



Figure 5: Home interface based on instruments

You can double-click the icon of an instrument to select it, and then configure the parameters in a batch.

#### Configuring instruments

The process of instrument configuration is demonstrated by the following oscilloscope configuration interface.

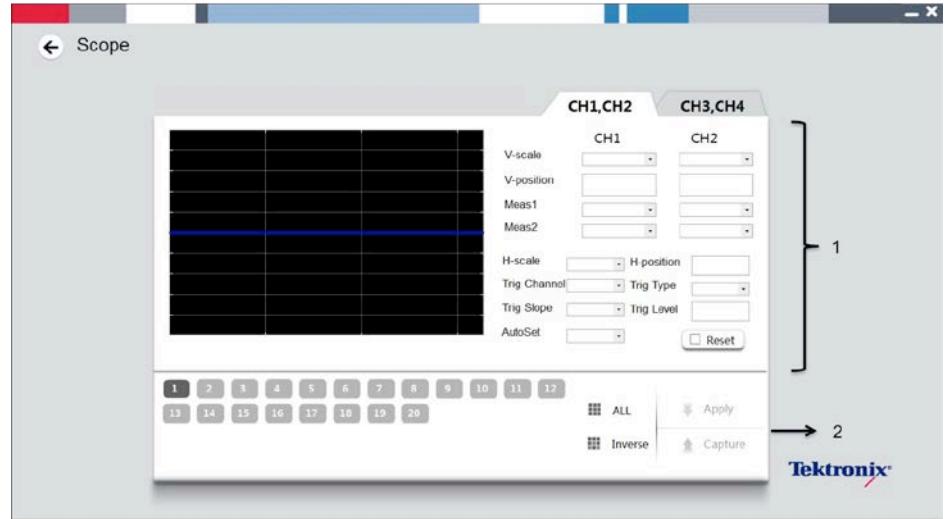


Figure 6: Oscilloscope configuration interface

1. On the oscilloscope configuration interface, the waveform is displayed only after the instrument of a bench is configured (see Figure 7).
2. You can choose a bench to configure the instruments on by selecting it. If a bench is chosen, its icon will be displayed as dark grey. (refer to Configuring Benches .)



Figure 7: Oscilloscope configuration interface (configured)

## Configuring Benches

### Bench Monitoring Interface

You can enter the bench-monitoring interface from the Instruments home screen as follows.

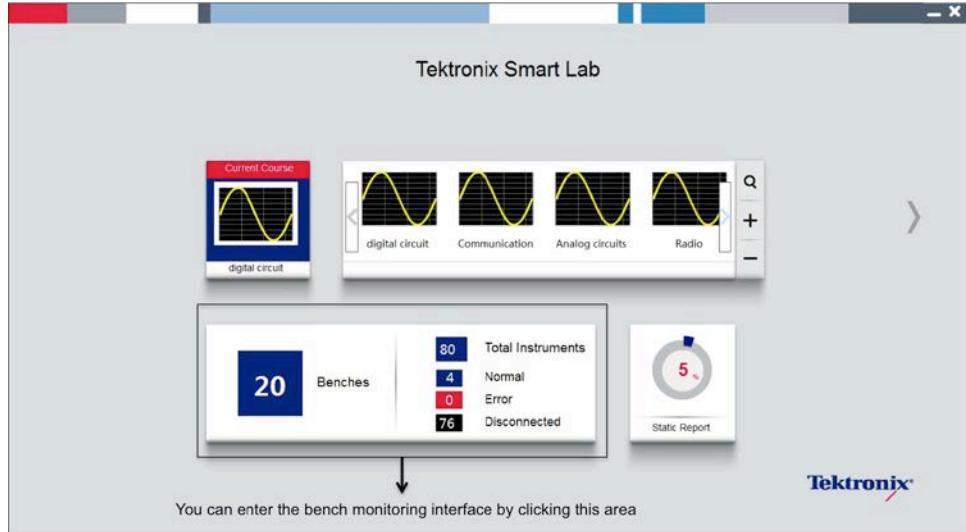


Figure 8: Home interface based on instruments



Figure 9: Bench monitoring interface

1. As you can see from the figure above, the benches are displayed as numbered icons. Click an icon, and you will be able to configure the instruments on a specific bench. (Refer to Monitoring and Controlling Instruments of a Bench)
2. Click to enter the bench configuring interface

3. Every bench has four instruments as shown in Figure 9, and their status are displayed in three colors:
  - a. Green indicates that the instrument is connected and functioning.
  - b. Grey indicates that the instrument is not connected. Please check whether the instrument is turned on, properly connected, or whether the USB-WIFI HUB is functioning.
  - c. Red indicates that the instrument is not communicating with the monitoring computer. You may restart the instrument and USB-WIFI HUB. If the fault is still not cleared, please run a self-check of the instruments. Refer to its user manual to determine whether the instrument is malfunctioning.

### Bench Configuration Interface

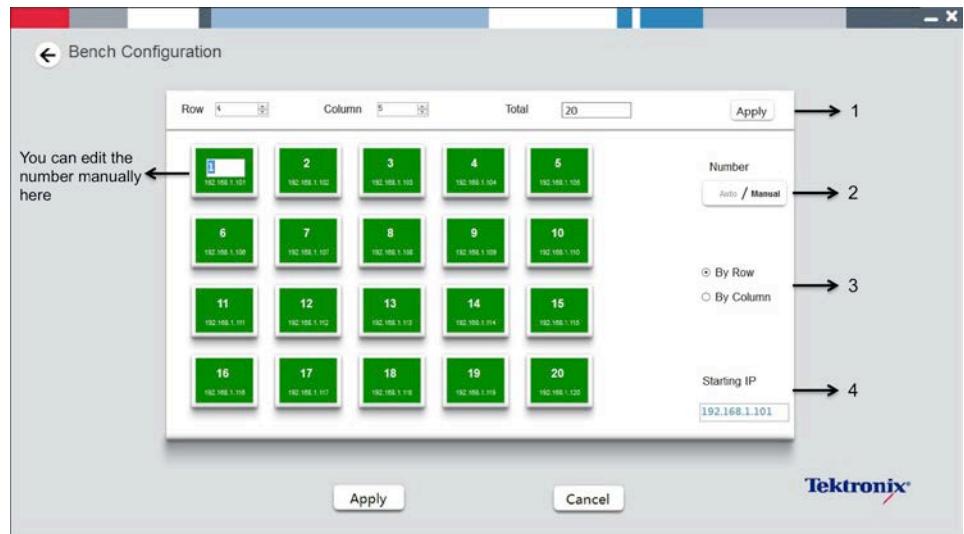


Figure 10: Bench configuring interface

1. You can arrange the layout of the benches by entering numbers in the **Row** and **Column** boxes. The number in the **Total** box will be automatically computed. Click **Apply** to save the setting.
2. You can choose **Auto** or **Manual** to arrange the numbers automatically or manually.
3. If you choose **Auto**, you can choose **By Row** or **By Column** to decide how the numbers are arranged.
4. You can configure the IP address of the first bench by entering the address in the **Starting IP** box. TSL3000A will link the chosen bench to the IP address of the USB-WIFI HUB after this setting.

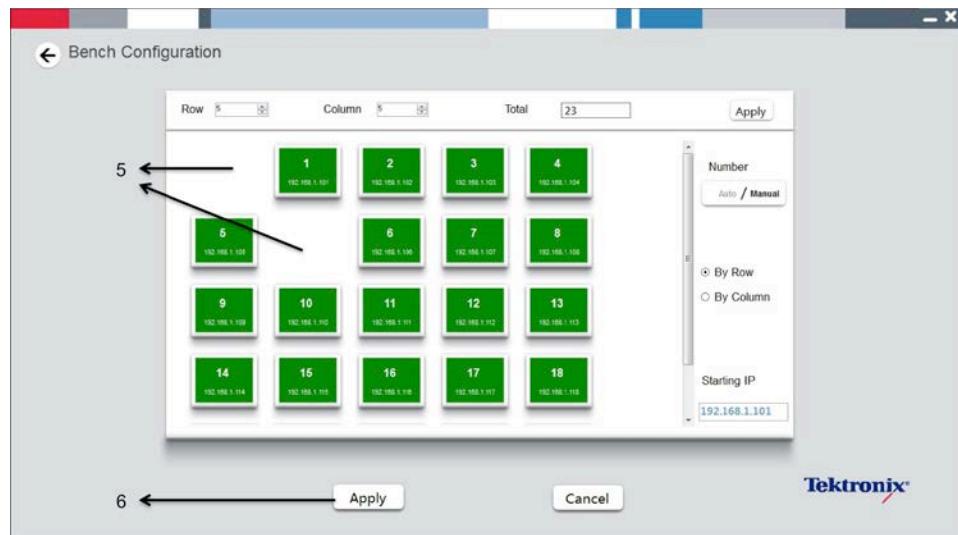


Figure 11: Editing benches

5. Double-click the icon of a bench to delete a bench; if you double-click the blank again, the bench will reappear on the interface.
6. Click **Apply** to save the bench configuration.

## Monitoring and Controlling Instruments of a Bench

Click one of the benches, and you will enter the instrument monitoring/controlling interface as shown below.



Figure 12: Instrument monitoring/controlling interface

The parameters and waveform of the instruments on the bench are displayed automatically on this interface, and you can change the parameters manually.

1. Click , you can return to the bench configuration screen.
2. The parameters of the instruments are displayed here. You can move to the previous bench and the next bench by clicking the left and right arrows.

*Note: After you modify instrument parameters, you should press **Enter** on your keyboard to save the modification. If the input parameters exceed the predefined value range, an error message will pop up.*

3. Click to set more parameters of the chosen instrument.
4. Click **Report** to save the test result in a preset template.

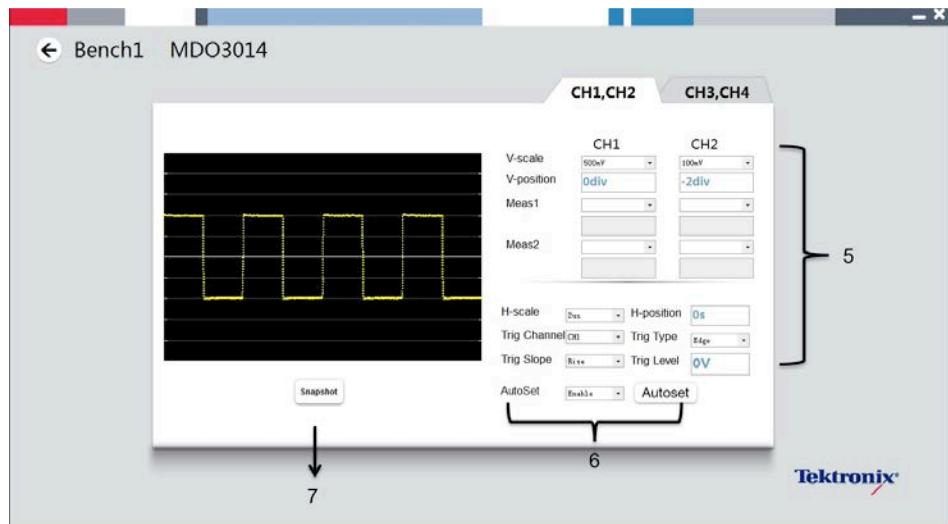


Figure 13: Oscilloscope configuration interface

5. You can set the parameters of the oscilloscope in this area.
6. You can enable, disable, and execute **Autoset** in this area.
7. Click **Snapshot** to capture the waveform of the oscilloscope.

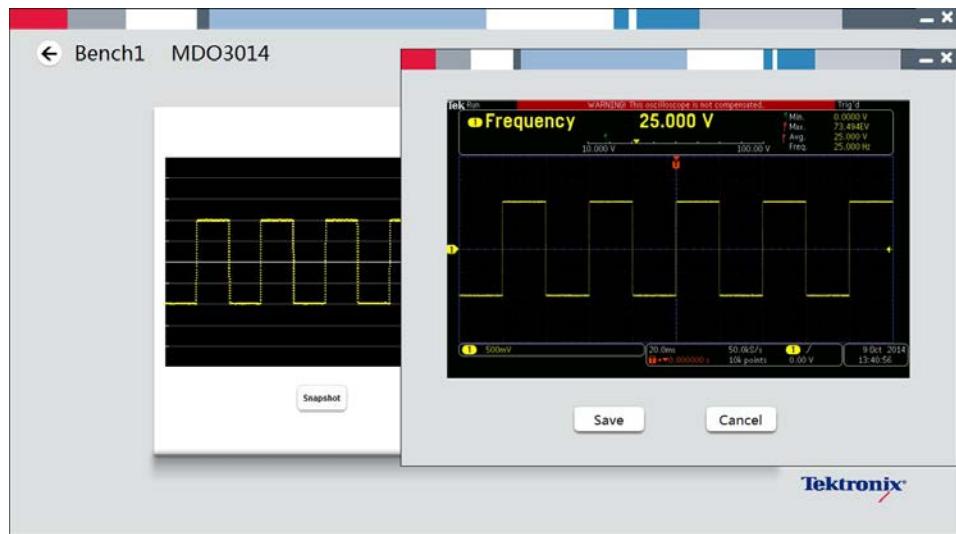


Figure 14: Snapshot of the oscilloscope waveform

## Instrument Static Report

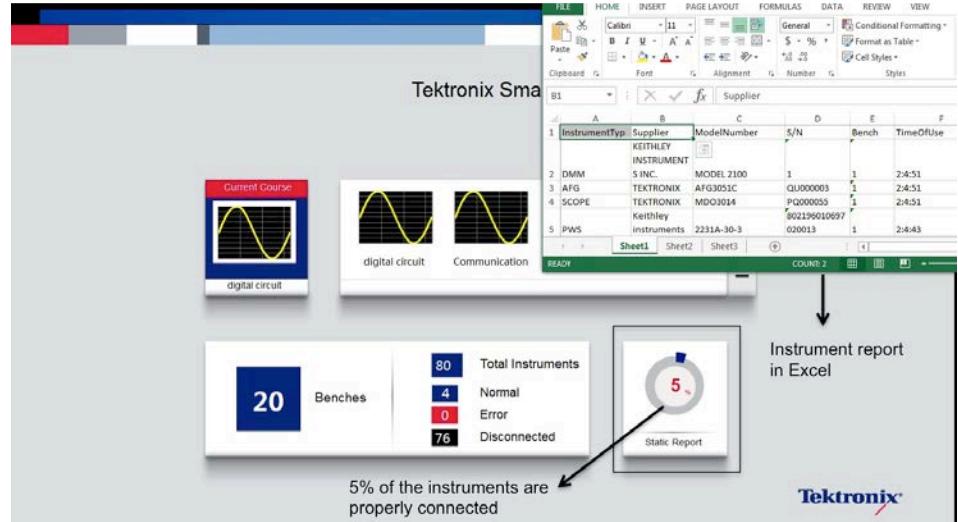


Figure 15: Instrument status report

Click **Static Report**, an Excel report will pop up, which records the supplier, model number, serial number, bench number, and time of use of the chosen instrument.

## Example Cases

A few example cases of using TSL3000A are show in this section.

### Arranging the Benches

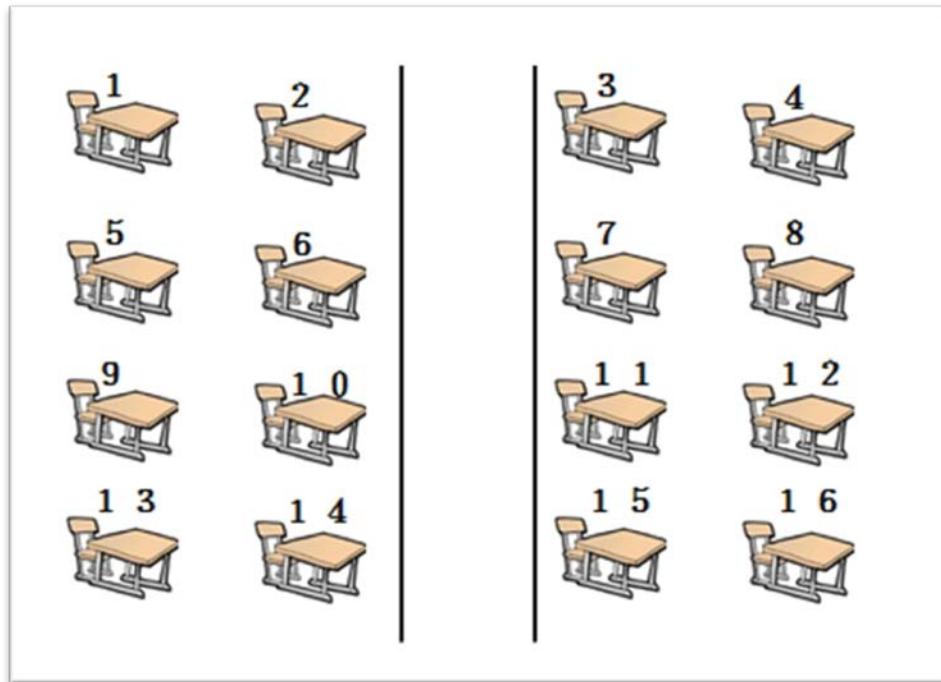


Figure 16: Layout of a lab

Figure 16 showcases the layout of a lab. There are 16 benches in total with a hallway in the middle. You can represent this layout in the TSL3000A by following these instructions:

1. Enter the bench configuration interface (refer to Bench Configuration Interface)

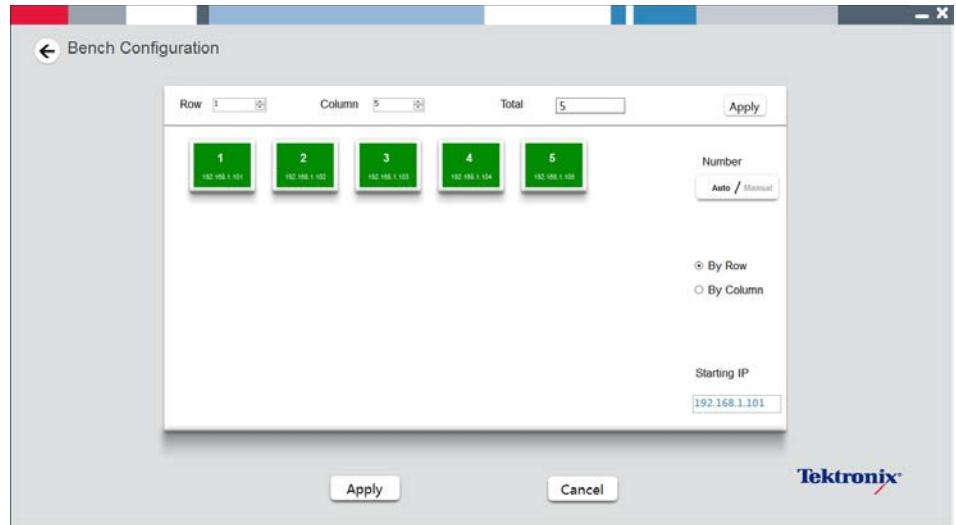


Figure 17: Bench configuration interface

Set **Row** as 4 and **Column** as 5. Then click **Apply**. The layout of 20 benches is shown as follows.

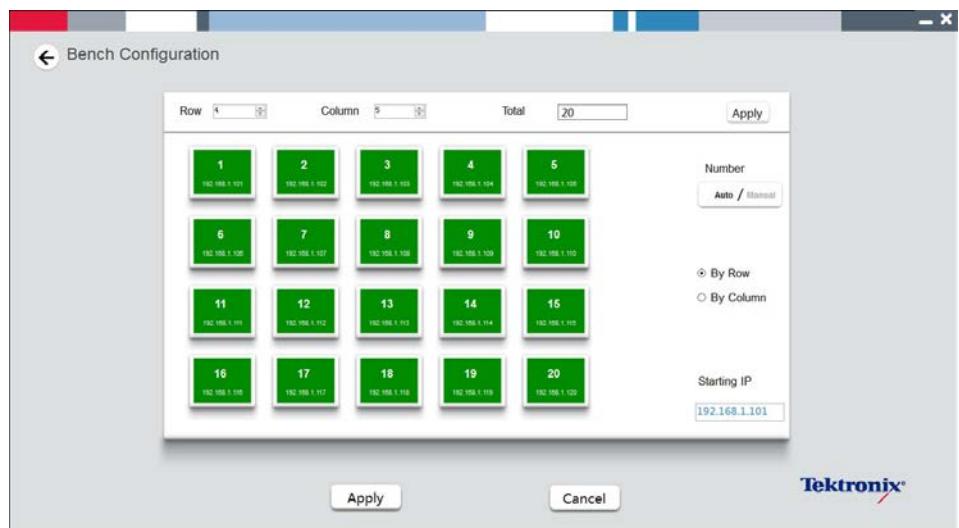


Figure 18: Arranging benches

Choose and double-click the column in the middle to delete the column as shown in the following figure.

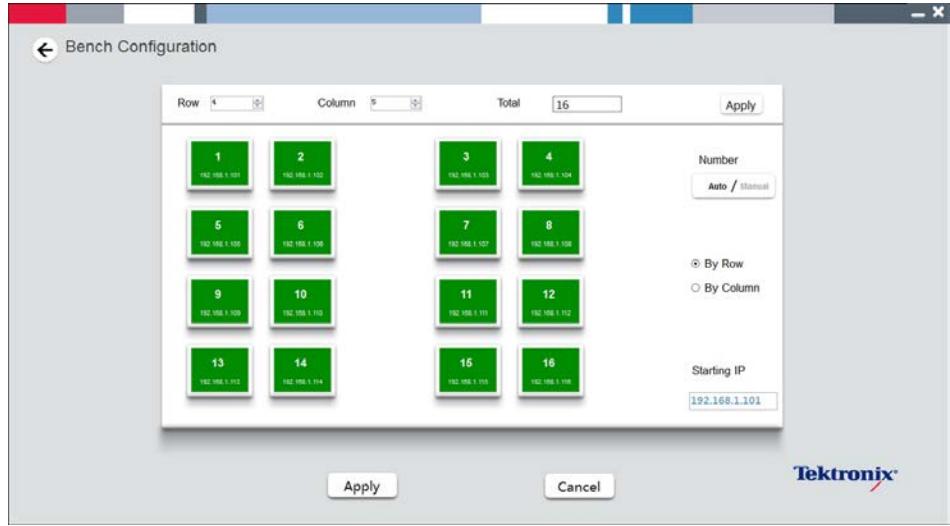


Figure 19: Arranging benches

Click **Apply**. An alert that reads **Original setting will be cleaned, continue?** will pop up. Click **Yes** to finish the setting. Then the bench monitoring interface will appear as follows.

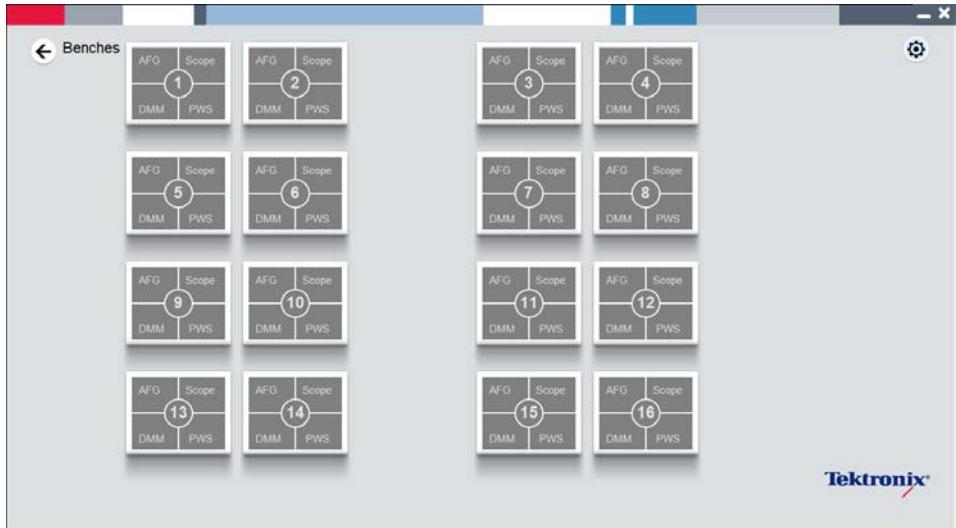


Figure 20: Bench monitoring interface

### Customizing Courses and Configuring Instruments

This case explains how to create a new course, and configure the instruments for this course.

1. On the Course home screen, click + to create a new course.

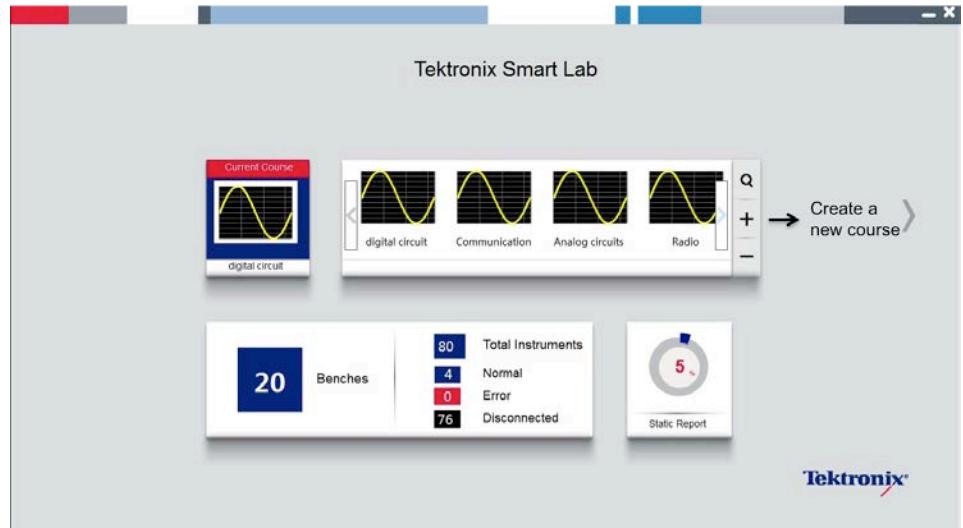


Figure 21: Creating a new course

Input the respective information in the boxes of Name, Number, and Overview.

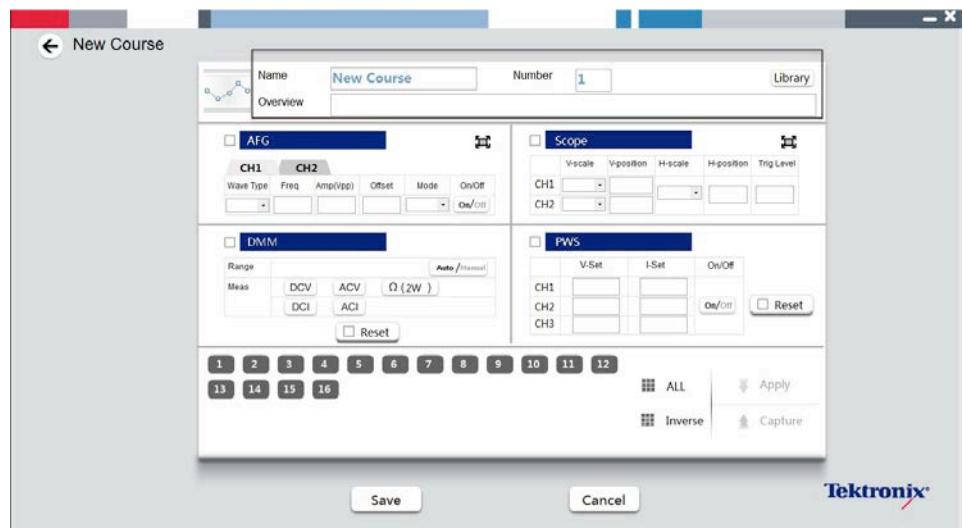


Figure 22: Customizing a course

Tick the instrument to be configured and set the parameters. In the following figure, the arbitrary function generator (AFG) and oscilloscope (Scope) are configured. **Autoset** boxes of the digital multimeter (DMM) and power supply (PWS) are ticked.

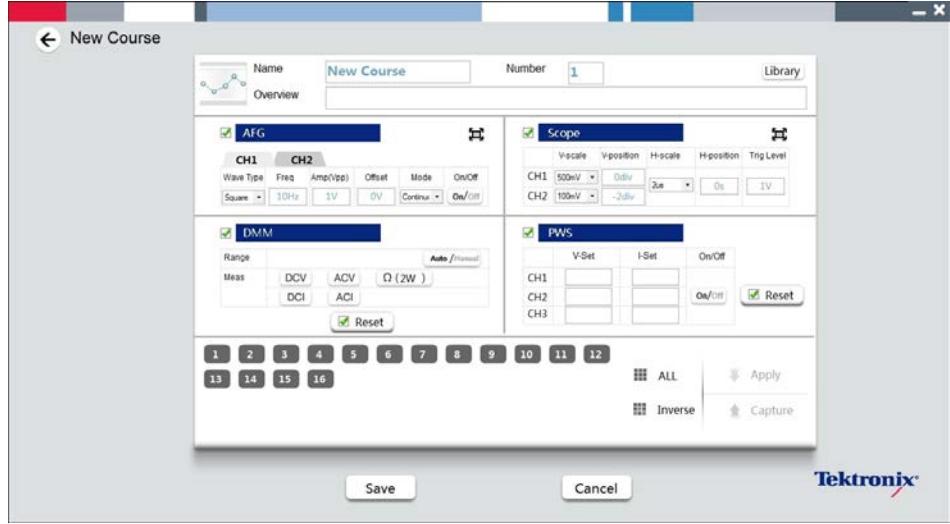


Figure 23: Configuring instruments

Choose the bench to be configured, and click **Apply**. Then the configuration is distributed to the chosen bench. If the configuration works, the configured bench is displayed in green as shown in the below figure.

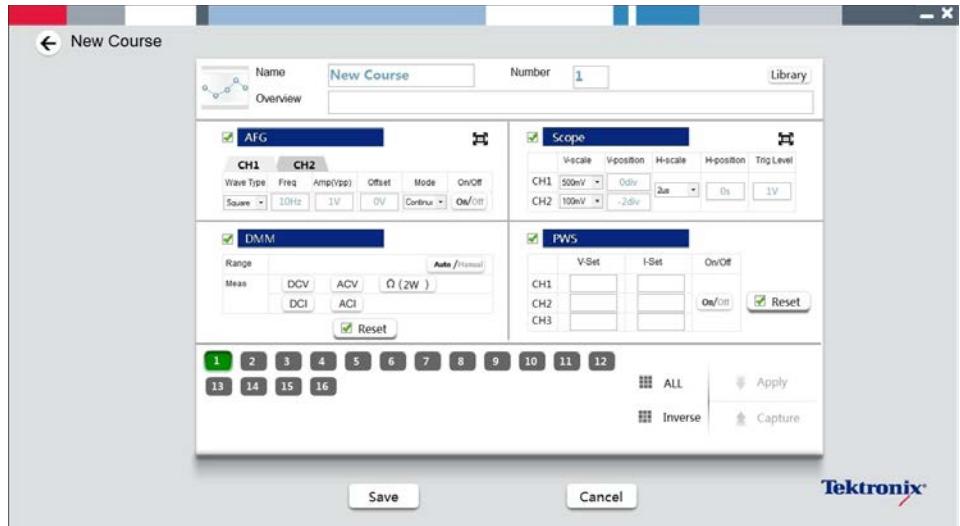


Figure 24: Bench successfully configured

Click **Save**, and the newly created course along with its configurations is saved as you can see on the home interface based on courses below.

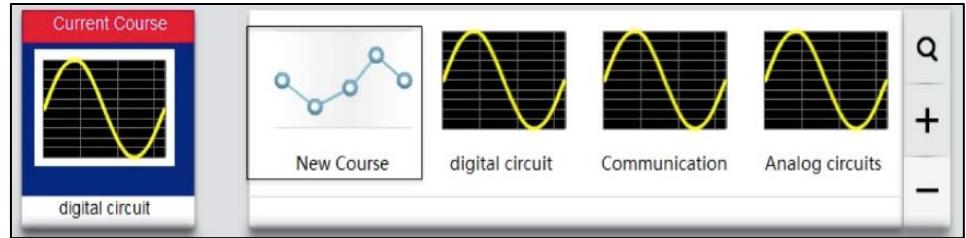


Figure 25: Newly created course on the home interface

### Editing the Report Template and Inserting Test Result into a Report

You can customize the report template of TSL3000A. All the test reports will be created based on this template.

To edit the report template, find the document with the name **Report.doc** under the directory where the TSL3000A is installed. You can edit anything, but you should always keep the line following **6. Test Result** blank because the test result will be imbedded here.

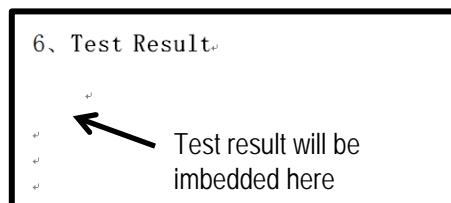


Figure 26: Keeping the line for test report blank

To create a report, click **Report** on the instrument monitoring interface of a bench.

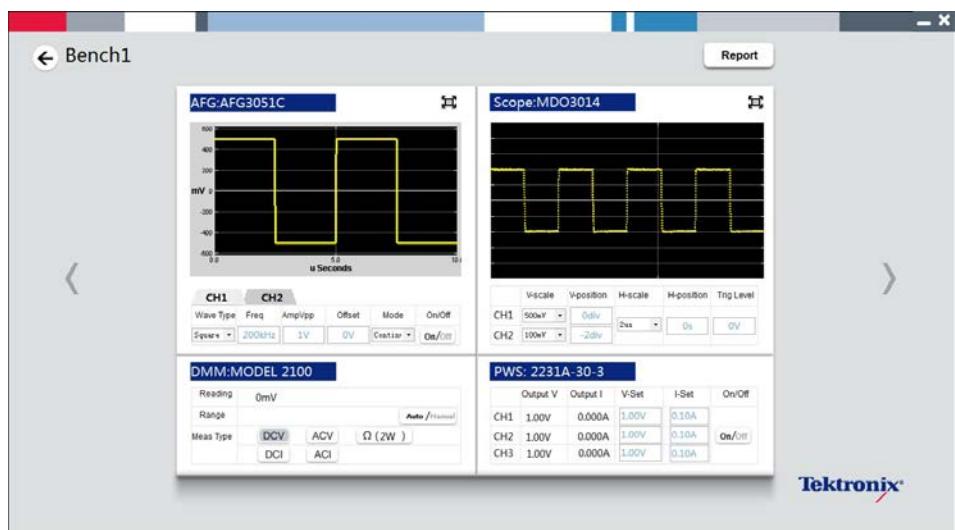


Figure 27: Instrument monitoring interface

The test result will be imbedded in the report template automatically to create a new report. The newly created report will be saved in the Library of its corresponding course.

